

REMARKS

Claims 1-34 were pending. All were rejected. The Applicant has amended claims 1, 2, 13, 21, 23, 24 and 30 and added new claims 35-43. Therefore, claims 1-43 are presently pending. The Applicant requests further consideration and re-examination in view of the amendments above and remarks set forth below.

Rejections under 35 U.S.C. § 112:

Claims 1-34 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Particularly, the Examiner stated that the preambles of claims 1, 13, 21 and 30 disclose “designing a data storage system” and the bodies of the claims disclose the storage of the data structure and/or assigning the stores to the data structure. Thus, the goals of the claims were unclear to the Examiner. Claims 2-12, 14-20, 22-29 and 31-34 were rejected as being dependent from a rejected base claim.

The invention is directed toward data store assignment for a data storage system design. See, for example, Applicant’s specification at page 3, lines 27-28; page 4, lines 10-13; page 7, lines 23-29; and claims 1, 13, 21 and 30. Thus, the Applicant has amended the preambles of claims 1, 13, 21 and 30 to be more consistent with the specification and with the bodies of the claims.

It is important to note that the data structure recited in claims 1, 13, 21 and 30 represents the storage system being designed. See, for example, Fig. 1 of the Applicant’s specification and related discussion at page 4, lines 10-19. Thus, the data structure is not itself the data storage system being designed. Rather, the data structure is likely to be stored and manipulated by a different computer system. See, for example, Fig. 2 of the Applicant’s specification and related discussion, which discloses a general-purpose computer system for storing and manipulating the data structure of Fig. 1. Thus, the Applicant has amended claims 1, 13, 21 and 30 to clarify that the data structure includes a plurality of nodes in which at least some of the nodes each represent a physical data storage device.

In addition, the Applicant has amended claims 1, 13, 21 and 30 to clarify that representations of data stores are assigned to the data structure. These amendments are consistent with claim 1, line 5 and claim 13, line 5, which recite “representations

of a plurality of data stores” and are supported by the Applicant’s specification at least at page 7, lines 23-29, which discloses that a task of the solver is to assign stores to the devices and/or LUs of the data structure based on the requirements of the stores and the attributes of the devices and LUs.

In addition, where indicated, the solver may apply various functions to the attributes of node so as to transform the node in some manner. See, for example, Applicant’s specification at page 7, lines 3-5. Thus, certain claims recite that the solver modifies one or more attributes of the one or more storage devices. See for example, claims 12, 13 and 32.

The Applicant has also amended claims 1, 13, 21 and 30 and their dependent claims, where appropriate, to change recitations of “first store” to “store” since the inclusion of “first” is unnecessary. Further, it should be apparent that the recited data store may be assigned to the data structure before or after others are assigned and that the terms “first” and “second” as are still used in the claims should not be read as limiting.

The Applicant has amended claim 18 to be dependent from claim 16. This is consistent with claim 7 (which adds limitations that are similar to those of claim 18) being dependent from claim 6 (which adds limitations that are similar to those of claim 18).

Taking the above amendments into consideration, the Applicant respectfully submits that claims 1-34 are in compliance with 35 U.S.C. § 112. Therefore, claims 1-34 are now allowable.

New Claims:

New claims 35 and 42-43 are directed to an embodiment in which the solver process adds one or more additional nodes to the data structure when the comparison of the requirements of a store to the attributes of one or more of the data storage devices does not indicate compatibility. This embodiment is supported by the original specification at least at page 5, lines 11-31 and page 9, lines 24-28.

New claims 36 and 39 are directed to an embodiment in which the solver process assigns at least some of the stores to the data structure and then removes at least one of the stores from the data structure. This embodiment is supported by the

original specification at least at page 10, lines 10-14; page 11, line 32 to page 12, line 26; and page 13, line 30 to page 14, line 2.

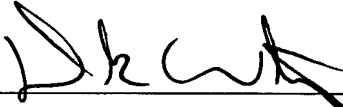
New claims 37-38 and 40-41 are directed to an embodiment in which the solver process removes a storage device from the design when no stores are assigned to the storage device. This embodiment is supported by the original specification at least at page 12, lines 13-18, where it states that “no storage device may be removed from the design unless it has no stores assigned to it,” though the obvious meaning of this statement is that a storage device can be removed from the design when no stores are assigned to it.

Conclusion:

In view of the above, the Applicant submits that all of the pending claims are now allowable. Allowance at an early date would be greatly appreciated. Should any outstanding issues remain, the examiner is encouraged to contact the undersigned at (408) 293-9000 so that any such issues can be expeditiously resolved.

Respectfully Submitted,

Dated: April 9, 2004


Derek J. Westberg (Reg. No. 40,872)